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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,700	07/11/2006	Anthony Bonnet	FR-AM 2005 NP	6532
31684 7590 10/09/2008				
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222				
EXAMINER				
SELLERS, ROBERT E				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
10/09/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/585,700

**Applicant(s)**

BONNET ET AL.

**Examiner**

ROBERT SELLERS

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 5, 9, 15-19, 22, 24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 10-14, 20, 21, 23 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11 July 2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-17 and 20-25, drawn to a process for the preparation of thermoset materials and objects comprising mixing formulation (A) containing an epoxide prepolymer and a first rheology-regulating agent (I) with formulation (B) containing a hardener and a second rheology-regulating agent (II), preparing a structure therewith and reacting the formulations.

Group II, claim 15, a woven or knitted fabric.

Group III, claims 18 and 26, drawn to a thermoset object.

Group IV, claim 19, drawn to the process wherein the mixture further comprises fibers, mats and/or woven fabric.

(Claim 15 is separately grouped since it is not directed to the preparation process, but the final product of a woven or knitted fabric. The error is regretted.)

2. The inventions listed as Groups I, II, III and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical feature. The special technical feature is the simultaneous treatment of two formulations, one based on an epoxide prepolymer and a rheology-control agent, and the other based on a hardener and a rheology-control agent (II).

3. French Patent No. 2,841,252 (Derwent abstract, page 2) shows the mixing of 40% by weight of a styrene/butadiene/methyl methacrylate block copolymer, 41.53% by weight of bisphenol A diglycidyl ether and 18.47% by weight of 4,4'-methylenebis(3-chloro-2,6-diethylaniline), pressing to form a panel, and reacting by curing. The claimed preparation of separate formulations of an epoxide prepolymer and hardener, each with a rheology control agent, is not recited. It would have been obvious to pre-blend the rheology regulator of the French patent with the bisphenol A diglycidyl ether and 4,4'-methylenebis(3-chloro-2,6-diethylaniline) separately in order to optimize the flowability of each component prior to mixing.

Accordingly, the special technical feature does not make a contribution over the prior art, thereby validating a holding of lack of unity.

4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- a) The epoxide prepolymers.
- b) Rheology-regulating agents (I).
- c) The hardeners.
- d) Rheology-regulating agents (II).
- e) The preparation of the semi-finished product by either the co-weaving of claim 14, the co-extrusion of claim 16, or the impregnation by a powder mixture of claim 17.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species (MPEP § 809.02(a)).

Claims 1-26 are generic.

5. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the reasons espoused hereinabove with respect to the holding of lack of unity.

6. During a telephone conversation with Steven D. Boyd on October 7, 2008, a provisional election was made without traverse to prosecute the invention of Group I and the following species involving claims 1-4, 6-8, 10-14, 20, 21, 23 and 25:

a) Bisphenol A diglycidyl ether.

b) Polystyrene-polybutadiene-poly(methyl methacrylate) S-B-M triblock copolymer.

- c) 4,4'-methylenebis(3-chloro-2,6-diethylaniline M-DEA.

Affirmation of this election must be made by applicant in replying to this Office action.

- d) Same as c).  
e) Preparation by the co-weaving of claim 14.

Claims 15, 18, 19 and 26 are withdrawn from further consideration under 37 CFR 1.142(b) as being drawn to non-elected inventions. Claims 5, 9, 16, 17, 22 and 24 are withdrawn as directed to non-elected species.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4, 6-8, 10-13, 20, 21, 23 and 25 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-14 and 18-23 of copending application no. 10/580,371. Although the conflicting claims are not identical, they are not patentably distinct from each other.

7. The copending application claims an organic fiber obtained from 10 to 99% by weight of a thermosetting resin such as an epoxy resin and a hardener (claim 14), and from 1 to 80% by weight of a rheology-controlling agent such as the elected species of S-B-M block copolymer. Although the claimed preparation of separate formulations of an epoxide prepolymer and hardener, each with a rheology control agent, is not recited, it would have been obvious to pre-blend the rheology-controlling agent of the copending application with the epoxy resin and hardener separately in order to optimize the flowability of each component prior to mixing.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boisseau et al. Patent No. 6,685,985 and Japanese Patent No. 6-57101.

8. Boisseau et al. sets forth the coating of a substrate (col. 17, lines 42-53) with a blend of preferably from 1 to 70% (col. 7, lines 40-44 and 51-57) of an active hydrogen groups-containing film-forming component (a)(i) such as a polyepoxide (col. 8, line 10), preferably from 10 to 60% (col. 7, lines 60-65) of an active hydrogen groups-reactive curing agent (a)(ii), and as much as 10% by weight (col. 7, lines 23-31) of a rheology control agent (b) of inorganic microparticles (i) and (ii) the reaction product of an amine and isocyanate (col. 3, lines 41-45).

9. The Japanese patent (Derwent abstract) shows the mixing of a calculated amount of 62.5% by weight of epoxy resins including the elected species of bisphenol A epoxy resin, 18.75% by weight of a phenol novolak curative, and 18.75% by weight of a fatty acid-treated calcium carbide as a rheology controlling agent.

10. Although the claimed preparation of separate formulations of an epoxide prepolymer and hardener, each with a rheology control agent, is not recited, it would have been obvious to pre-blend the rheology-controlling agents of Boisseau et al. and the Japanese patent with the epoxy resin and hardener separately in order to optimize the flowability of each component prior to mixing.

11. More favorable consideration would be given with respect to this rejection if the limitations of claim 2 denoting certain species of block copolymer as the rheology regulating agents (I) and (II) are incorporated into claim 1 since neither Boisseau et al. nor the Japanese patent recite such species.



Claims 1-4, 6-8, 10-13, 20, 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over French Patent No. 2,841,252 and Court et al. Patent No. 6,894,113.

12. French Patent No. 2,841,252 (Derwent abstract, page 2) shows the mixing of 40% by weight of the elected species of a styrene/butadiene/methyl methacrylate block copolymer, 41.53% by weight of bisphenol A diglycidyl ether and 18.47% by weight of the elected species of 4,4'-methylenebis(3-chloro-2,6-diethylaniline), pressing to form a panel, and reacting by curing.

13. Court et al. (col. 8, lines 35-49) is drawn to the blending of from 20 to 99% (col. 3, line 52 to col. 4, line 3) of a thermosetting resin such as a bisphenol A diglycidyl ether, from 1 to 80% of an impact modifier such as a S-B-M triblock copolymer (col. 9, line 66 to col. 10, line 11) followed by the addition of a hardener such as 29.9% by weight (col. 13, Table 1, Reference Test 4) of 4,4'-methylenebis(3-chloro-2,6-diethylaniline). The mixture is then molded and reacted by curing.

14. Although the claimed preparation of separate formulations of an epoxide prepolymer and hardener, each with a rheology control agent, is not recited, it would have been obvious to pre-blend the S-B-M triblock copolymers of the French patent and Court et al. with the epoxy resin and hardener separately in order to optimize the flowability of each component prior to mixing.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over copending application no. 10/580,371, the French patent and Court et al. as applied to the claims hereinabove, and further in view of Perez et al. Patent No. 5,709,948.

The aforementioned French patent and Court et al. do not recite the claimed co-weaving of the semifinished product formed from the mixture required in claim 14.

15. Perez et al. (col. 11, lines 33-35) teaches the extrusion in fiber form of a composition obtained from 0.1 to 50 percent by weight of an epoxy resin (col. 1, lines 60-64) such as a diglycidyl ether of bisphenol A (col. 5, lines 33-34), a curative such as aromatic amines (col. 9, lines 7-8) and polyolefins and woven into articles.

16. It would have been obvious extrude into fibers and weave the formulations of the copending application, the French patent and Court et al. as per Perez et al. in order to obtain an article with strength properties endemic to woven articles.

The prior art made of record and not relied upon is considered pertinent to the disclosure.

17. Kozak Publication No. 2003/0036587 (page 4, paragraphs 50 and 51) discloses combining from about 15 to about 75 weight percent (page 2, paragraph 25) of an epoxy resin, as much as about 2 percent by weight (page 2, paragraph 30) of a rheology control agent such as silanes (page 2, paragraph 31) and from about 1 to about 25 weight percent (page 3, paragraph 33) of a curing agent, dispensing the combination onto a substrate and positioning a component thereover to form an assembly and reacting the combination by curing.

18. Haubennestel et al. Patent No. 6,870,024 reports a rheology control agent derived from the reaction of an isocyanate prepolymer with a mixture of a monoamine and polyamine (col. 3, lines 7-11) added to a liquid polymer system (col. 8, lines 29-30) such as an epoxy resin (col. 9, lines 1 and 58-59) and hardener (col. 15, lines 23-24) in an amount of as high as 5% (col. 10, lines 44-48).

The claimed total minimum proportion of 11% by weight of rheology-regulating agents (I) and (II) is not recited.

(571) 272-1093 (Fax No. (571)-273-8300)  
Monday to Friday, 9:30 to 6:00

/Robert Sellers/  
Primary Examiner  
Division 1796

rs  
10/7/2008